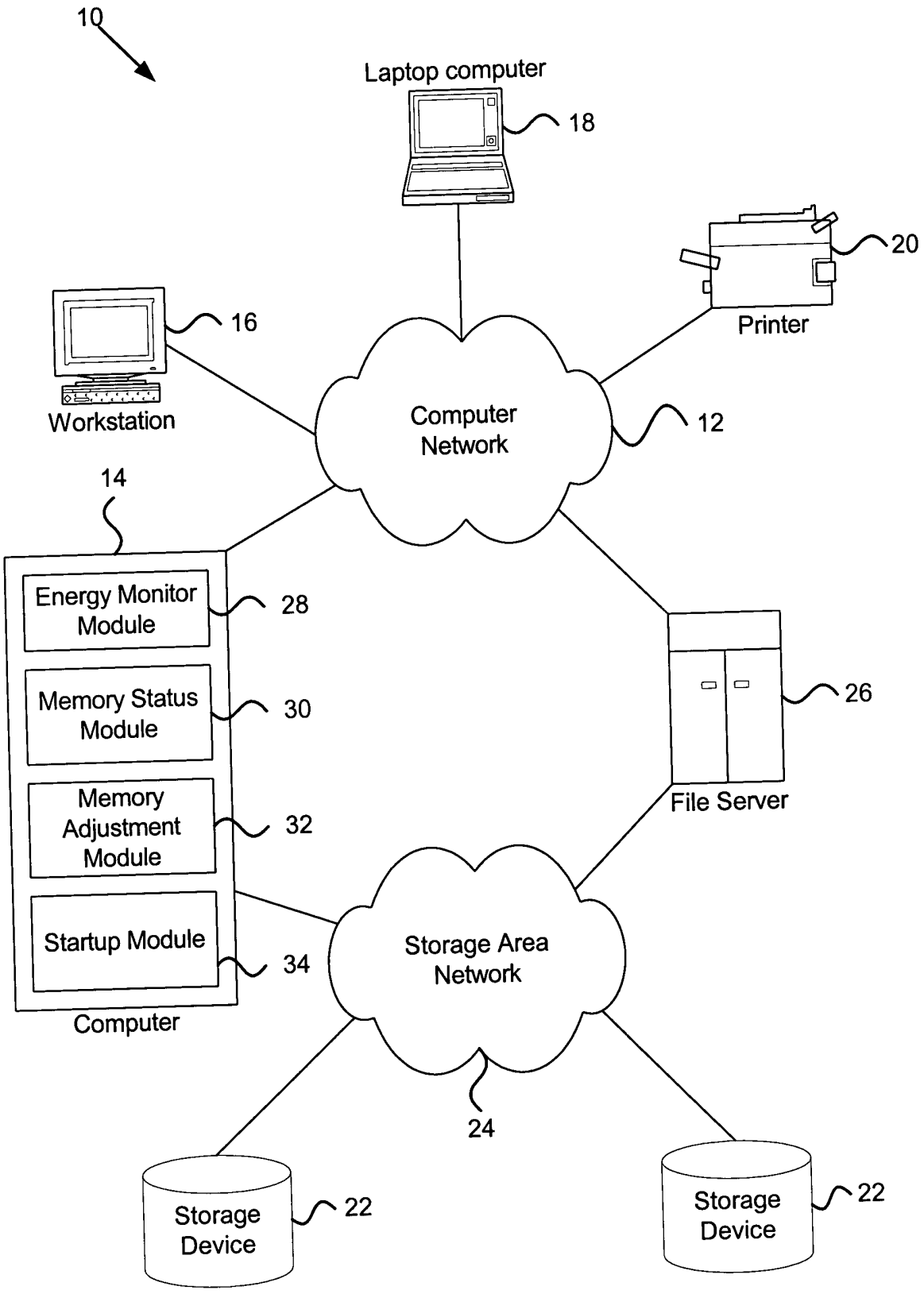
10
Laptop computer
18
20
Printer
16
Workstation
Computer Network
12
14
Energy Monitor Module
28
Memory Status Module
30
Memory Adjustment Module
32
Startup Module
34
Computer
26
File Server
Storage Area Network
24
Storage Device
22
Storage Device
22

FIG. 1

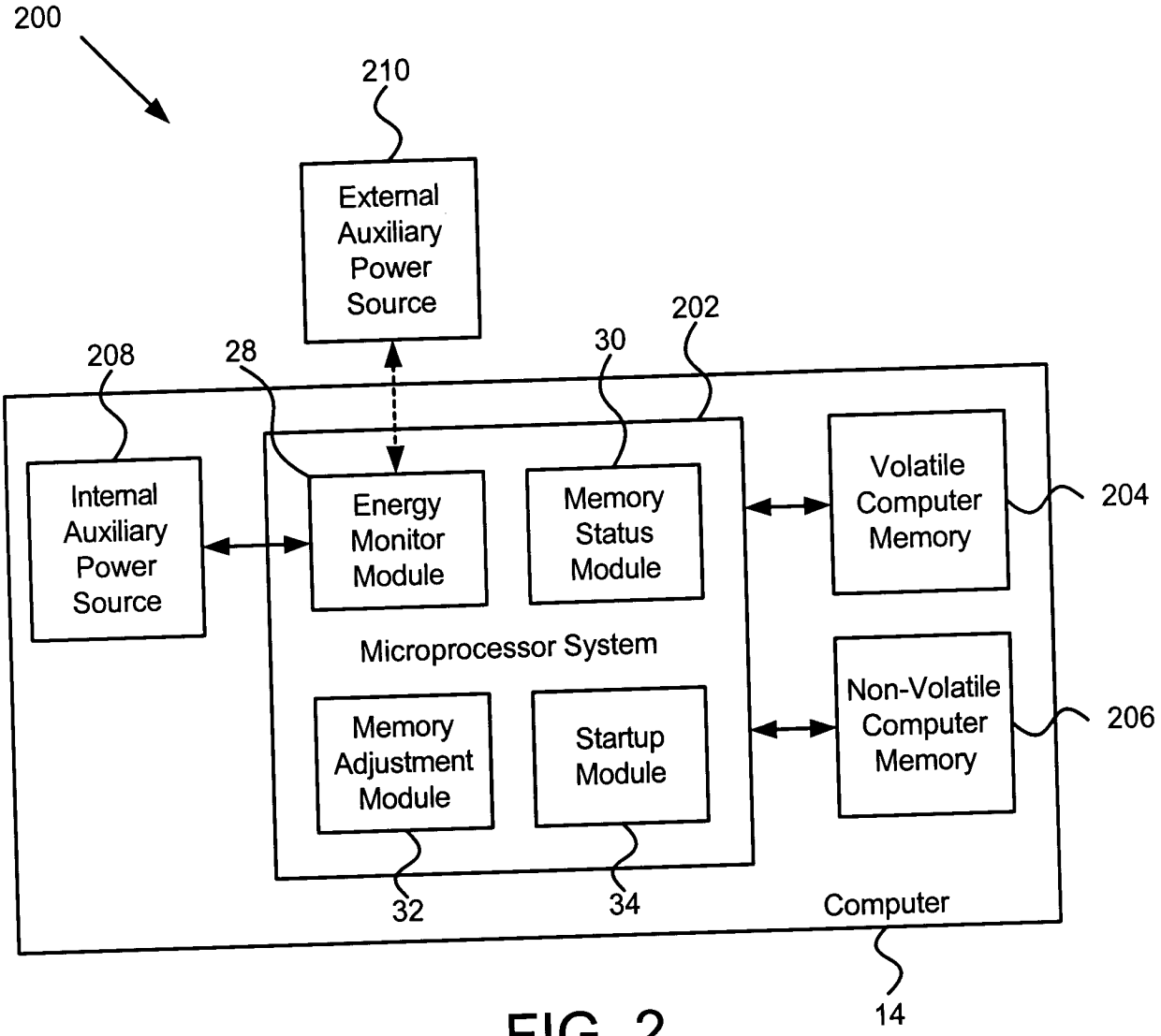
200
210
External Auxiliary Power Source
202
208
28
30
Internal Auxiliary Power Source
Energy Monitor Module
Memory Status Module
Volatile Computer Memory
204
Microprocessor System
Memory Adjustment Module
Startup Module
Non-Volatile Computer Memory
206
32
34
Computer
14

FIG. 2

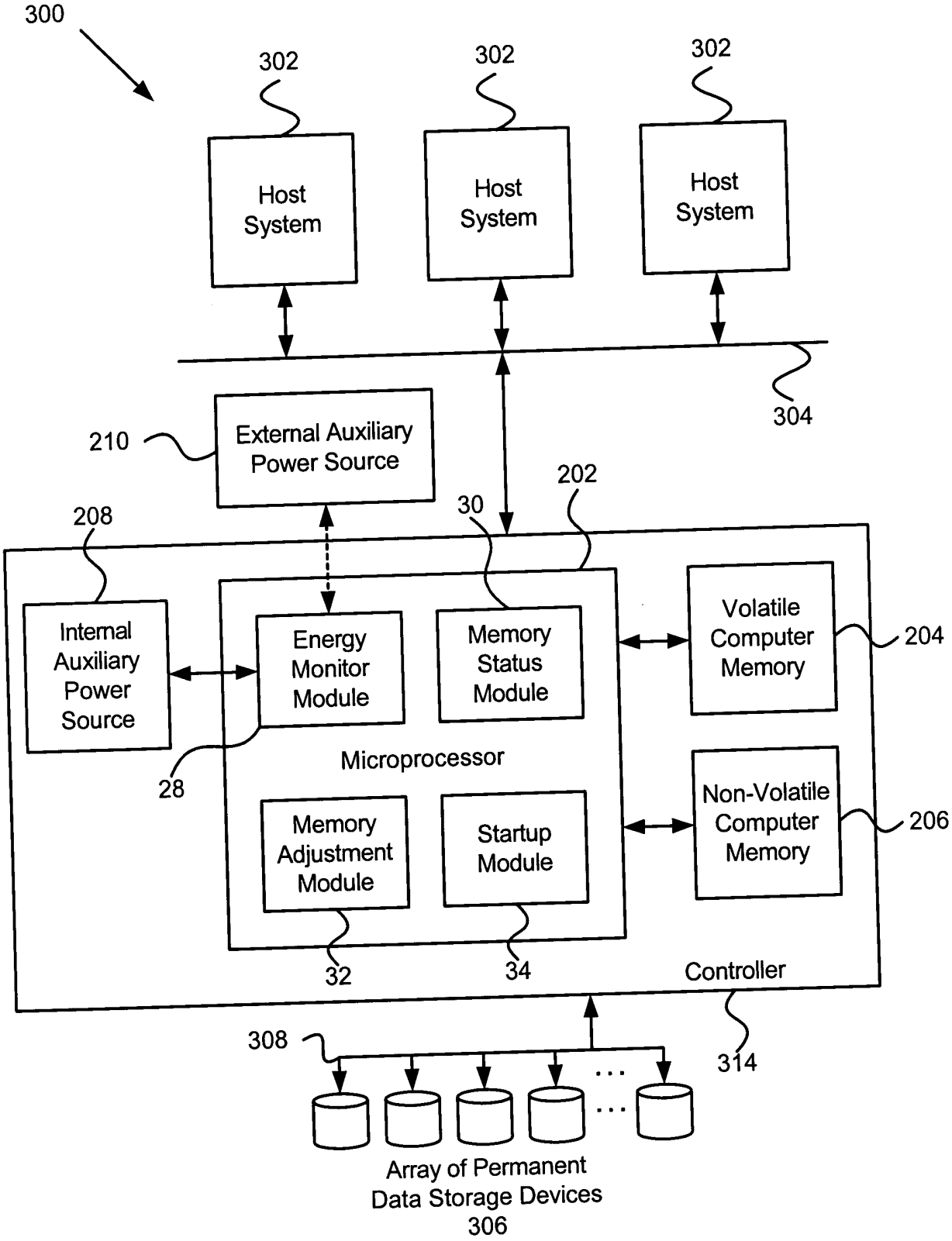
300
302
302
302
Host System
Host System
Host System
304
210
External Auxiliary Power Source
202
30
208
Internal Auxiliary Power Source
Energy Monitor Module
Memory Status Module
Volatile Computer Memory
204
Microprocessor
28
Memory Adjustment Module
Startup Module
Non-Volatile Computer Memory
206
32
34
Controller
308
314
Array of Permanent Data Storage Devices
306

FIG. 3

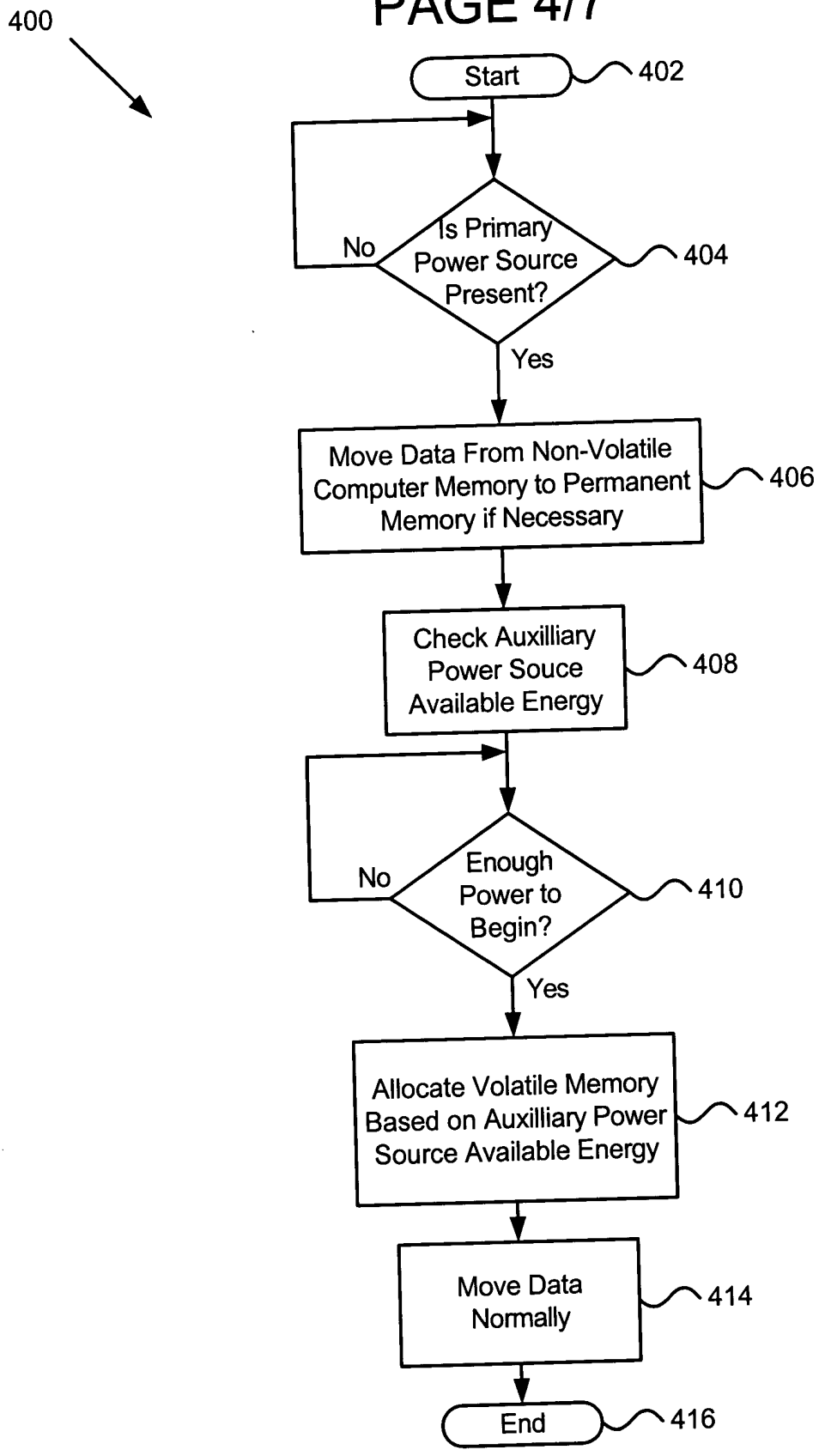
400
Start
402
Is Primary Power Source Present?
No
404
Yes
Move Data From Non-Volatile Computer Memory to Permanent Memory if Necessary
406
Check Auxilliary Power Souce Available Energy
408
Enough Power to Begin?
No
410
Yes
Allocate Volatile Memory Based on Auxilliary Power Source Available Energy
412
Move Data Normally
414
End
416

FIG. 4

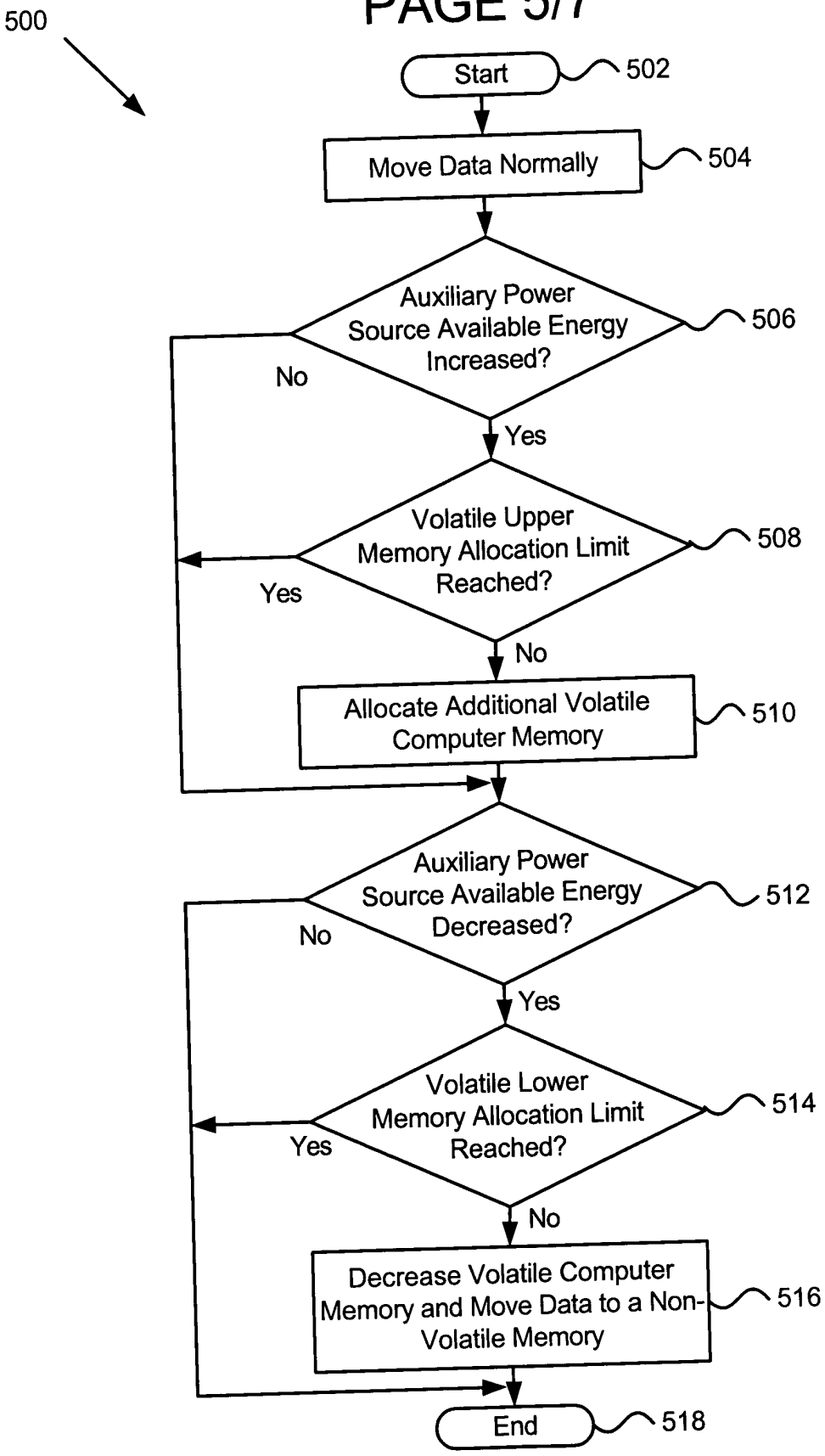
500
Start
502
Move Data Normally
504
Auxiliary Power Source Available Energy Increased?
506
No
Yes
Volatile Upper Memory Allocation Limit Reached?
508
Yes
No
Allocate Additional Volatile Computer Memory
510
Auxiliary Power Source Available Energy Decreased?
512
No
Yes
Volatile Lower Memory Allocation Limit Reached?
514
Yes
No
Decrease Volatile Computer Memory and Move Data to a Non-Volatile Memory
516
End
518

FIG. 5

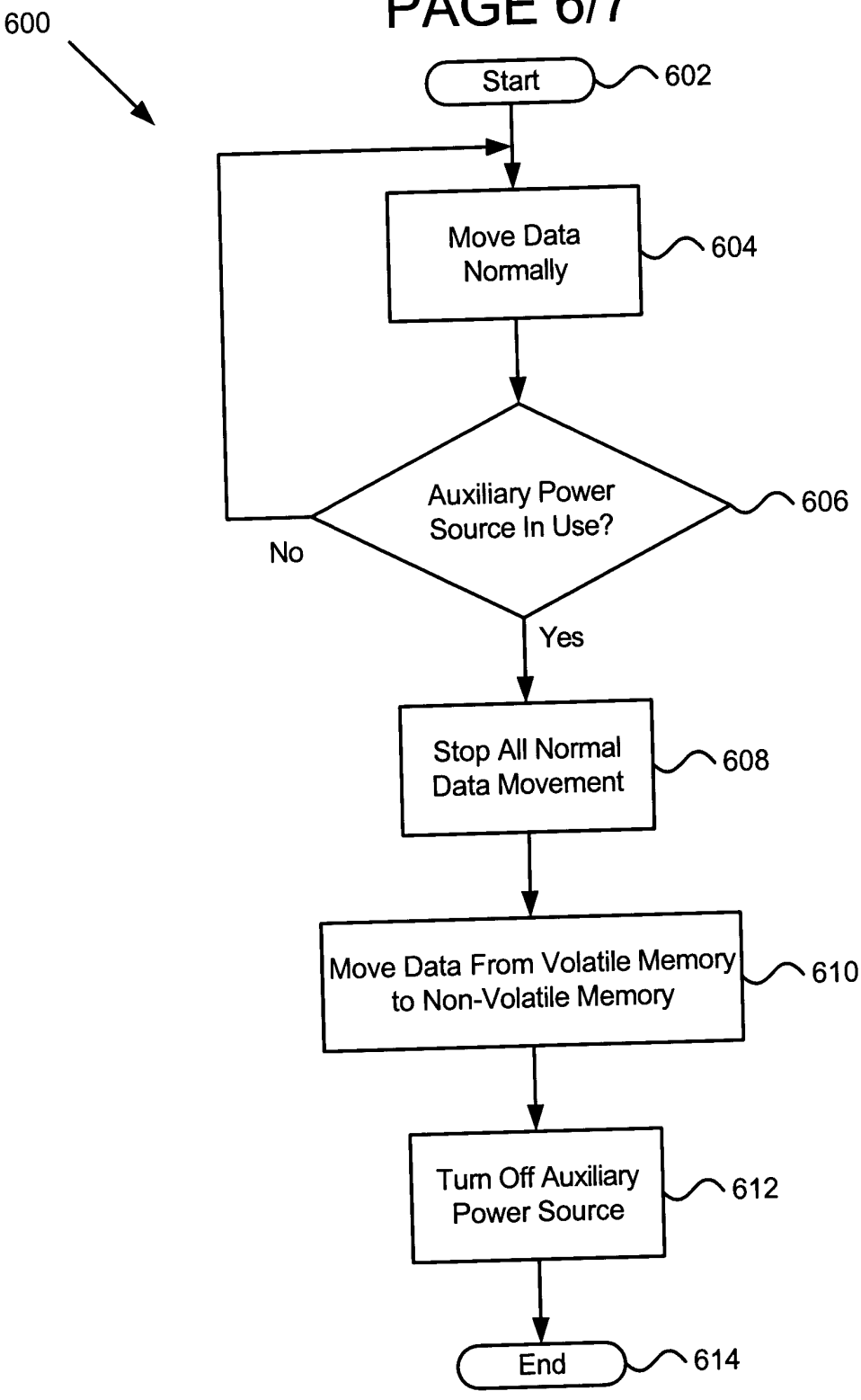
600
Start
602
Move Data Normally
604
Auxiliary Power Source In Use?
606
No
Yes
Stop All Normal Data Movement
608
Move Data From Volatile Memory to Non-Volatile Memory
610
Turn Off Auxiliary Power Source
612
End
614

FIG. 6

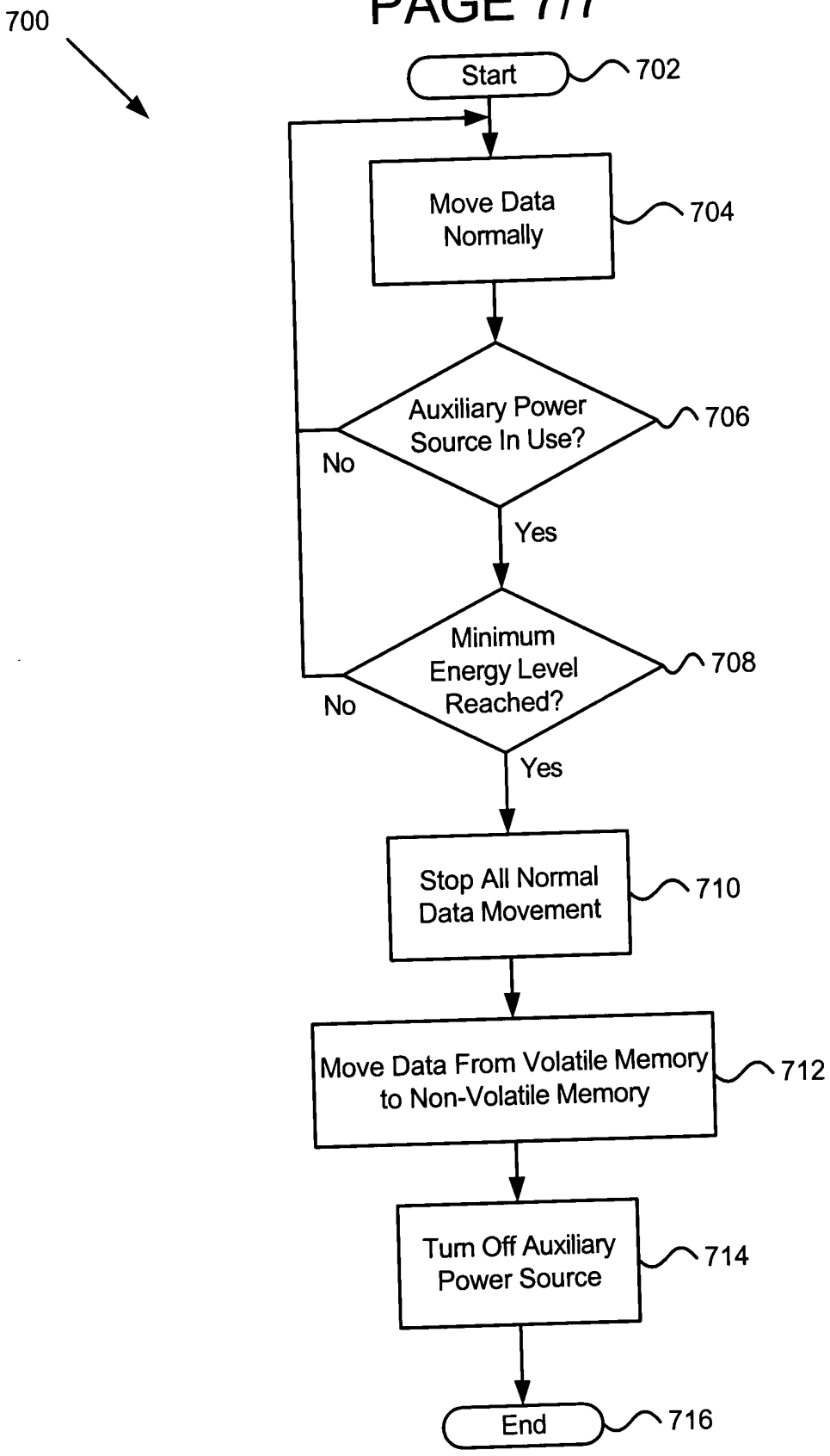
700
Start
702
Move Data Normally
704
Auxiliary Power Source In Use?
706
No
Yes
Minimum Energy Level Reached?
708
No
Yes
Stop All Normal Data Movement
710
Move Data From Volatile Memory to Non-Volatile Memory
712
Turn Off Auxiliary Power Source
714
End
716

FIG. 7